UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,474	11/28/2001	Anthony Grech	POU920000194US1	2333

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EXAMINER
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ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)	
Office Action Summary	09/995,474	GRECH ET AL.	
	Examiner	Art Unit	
	Dhairya A. Patel	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 November 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-66</u> is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18, 20-40, 42-62 and 64-66</u> is/are rejected.

7)☒ Claim(s) <u>19, 41 and 63</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication filed on 11/11/2005.

2. This amendment has been fully considered and entered.

3. Applicant's arguments are deemed moot in view of new grounds of rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the
United States before the invention thereof by the applicant for patent, or on an international application
by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1,2,5-9,16-18,20-22,23,24,27-31,38-40,42-44,45-46,49-53,60-62,64-66

are rejected under 35 U.S.C. 102(e) as being anticipated by Yavatkar et al. U.S. Patent

6,735,702 (hereinafter Yavatkar).

As per claim 1, Yavatkar teaches a method for performing isolation of dropped

packets, said method comprising:

-receiving a request to isolate a dropped packet in a network (Fig. 4 element 4), said request including a source node and a destination node (column 12 lines 11-16)(column 15 lines 64-67)(column 16 lines 1-7, lines 20-30);

Yavatkar teaches permitting agents the access to the port of the source and destination node to characteristics of number of dropped packets.

-mapping an expected route between the source node and the destination node , said expected route including a probe (column 16 lines 25-34);

The reference teaches tracing the path (expected route) between the source and the destination using the watchdog agent (probe).

-creating a capture filter profile for said probe (column 17 lines 17-31);

The reference teaches bloodhound agent creates report from the data collected and then sends it to the watchdog agent (probe).

-transmitting a request to said probe to perform data collection in response to said capture filter profile (column 16 lines 20-34)(column 17 lines 27-67);

The reference human operator transmitting a request to the watchdog (probe) to collect data information for attack traffic and analysis of the path taken in response to the bloodhound agent (capture probe).

-receiving a data log from said probe, said data log created by said data collection (column 18 lines 32-53); and

The reference teaches receiving results (data log) and information from the bloodhound agent to the watchdog agent (probe) and the bloodhound agent created the results from the data collected.

-generating exception data including comparing said expected route to said data log (column 17 lines 43-51); and

The reference teaches bloodhound agents generates the node path list (generating exception data) which it uses to compares if the agent has accessed the node already by comparing it with the node path list (expected route) and present position of the bloodhound agent at the link (data log) to determine if the bloodhound agent had already accessed the node already and if the node has a failure to traverse a link.

-isolating the dropped packet by identifying a failing network element along the expected route in response to the exception data (column 17 lines 43-51)(column 18 lines 1-18).

As per claim 2, Yavatkar teaches the method of claim 1, wherein said request to isolate a dropped packet further includes a network protocol identifier (column 16 lines 37-40).

The reference teaches request having IP address of the node (network protocol identifier).

As per claim 5, Yavatkar teaches the method of claim 1, wherein said capture filter profile includes said source node and destination node (column 16 lines 65-67)(column 17 lines 1-11).

The reference teaches bloodhound agent (capture profile) includes the target node (destination node) and the source node.

As per claim 6, Yavatkar teaches the method of claim 5 wherein said capture

filter profile further includes a network protocol identifier (column 16 lines 55-57).

The reference teaches bloodhound agent (capture filter profile) includes IP

address (network protocol identifier). of the targeted machine.

As per claim 7, Yavatkar teaches the method of claim 1 wherein said request to

isolate dropped packet is initiated programmatically by an agent in a network endpoint

(column 15 lines 44-67)(column 16 lines 1-7).

The reference teaches having a watchdog agent to intiate the isolation of the

dropped packet in an endpoint.

As per claim 8, Yavatkar teaches the method of claim 1 wherein said mapping an

expected path is restricted based on network topology data (column 16 lines 65-

67)(column 17 lines 1-11).

As per claim 9, Yavatkar teaches the method of claim 1 wherein said data log

comprises: said source node, said destination node, a probe identifier, and a unique

packet identifier (column 18 lines 34-49)(column 17 lines 52-67).

The reference teaches bloodhound agent reporting the information which

includes source node, target node (destination node), a particular watchdog agent

(probe identifier) and type of attack traffic such as SYN messages or UPD flood traffic or

ARP broadcast traffic (unique packet identifier).

As per claim 16, Yavatkar teaches the method of claim 1 further comprising: --

-receiving said data collection request at said probe (column 16 lines 22-32); and

-programming said probe in response to said capture filter profile (column 16 lines 22-32)(column 18 lines 34-53).

The reference teaches human operator send a request to the watchdog agent (probe) to trace attack traffic and analyze source and path taken. The watchdog agent which is programmed already sends bloodhound agents to trace traffic and analyze source and path taken data back to the watchdog agent.

As per claim 17, Yavatkar teaches the method of claim 16 wherein said probe is in passive mode (column 16 lines 24-25).

Yavatkar teaches watchdog agent is switched to alert mode (passive mode).

As per claim 18, Yavatkar teaches the method of claim 16 wherein said probe is in active mode (column 18 lines 54-62).

As per claim 20, Yavatkar teaches the method of claim 16 further comprising: capturing packet data for every packet received by said probe (column 19 lines 51-53) (column 17 lines 52-67).

As per claim 21, Yavatkar teaches the method of claim 16 further comprising: capturing packet data on a continuous basis at said probe (column 19 lines 51-53)(column 17 lines 52-67).

As per claim 22, Yavatkar teaches the method of claim 1 further comprising: capturing packet data for a time period specified by said capture filter profile; writing a packet data identifier to said data log when said packet data matches said capture filter profile; and transmitting said data log to requester of said data collection (column 18 lines 31-53).

As per claims 23,24,27-31,38-40,42-44 respectively, they teach same limitation

as claims 1,2,5-9,16-18,20-22 respectively, therefore rejected under same basis.

As per claims 45-46,49-53,60-62,64-66 respectively, they teach same limitation

as claims 1,2,5-9,16-18,20-22 respectively, therefore rejected under same basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3,4,25,26,47,48 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ross et al. U.S. Patent # 6,477,571 in view of Chao et al. U.S. Patent

6,549,513 (hereinafter Chao).

As per claim 3, Yavatkar teaches the method of claim 1 but is silent on teaching

the request further includes restrictions on said expected path. Chao teaches request

further includes restrictions on said expected path (Fig. 3 element 160). It would have

been obvious to one of ordinary skill in the art at the time of applicant's invention to

implement Yavatkar's invention in Chao's invention to come up with a restriction on

expected path in the request. The motivation for doing so would have been so that in

case that incase the expected path is broken or not working or is restricting certain

packets there is an alternative path for the restricted packets.

As per claim 4, Yavatkar teaches the method of claim 3, but is silent on teaching mapping is altered in response to said restrictions on said expected path. Chao teaches mapping is altered (Fig. 3 element 94) (Fig. 4) in response to said restrictions on said expected path (Fig. 3) (Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Chao's invention in Yavatkar's invention to come up with altered mapping in response to the restriction on the expected path. The motivation for doing so would have been to have an alternate path other than the expected path where the restricted packets or packets can go through.

As per claim 25,26 respectively they teach same limitations as claims 3,4 respectively, therefore rejected under same basis.

As per claim 47,48 respectively they teach same limitations as claims 3,4 respectively, therefore rejected under same basis.

6. Claims 10,11,32,33,54,55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yavatkar et al. U.S. Patent # 6,735,702 (hereinafter Yavatkar) in view of Sera et al. U.S. Patent Publication # 2001/0005371 (hereinafter Sera).

As per claim 10, Yavatkar teaches the method of claim 1 but is silent on teaching further comprising transmitting a retransmission request to a specified node in response to said exception data. Sera teaches transmitting a retransmission request to a specified node in response to said exception data (Paragraph 11). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Sera's invention in Yavatkar's invention to come up with transmitting a retransmission

request to the node. The motivation for doing so would have been because the data

packet was lost initially therefore a re-transmission to the specified node was needed.

(Paragraph 11)

As per claim 11, Yavatkar teaches the method of claim 1 but is silent on teaching

further comprising transmitting a notification to a specified node in response to said

exception data. Sera teaches transmitting a notification to a specified node in response

to said exception data (Paragraph 11). It would have been obvious to one of ordinary

skill in the art at the time of applicant's invention to implement Sera's invention in

Yavatkar's invention to come up with transmitting a notification to a specified node. The

motivation for doing so would have been because the data was lost initially and

therefore a notification to the specified node was needed.(Paragraph 11).

As per claims 32,33 respectively they teach same limitations as claims 10,11

respectively, therefore rejected under same basis.

As per claims 54,55 respectively they teach same limitations as claims 10,11

respectively, therefore rejected under same basis.

7. Claims 12,15,34,37,56,59 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yavatkar et al. U.S. Patent # 6,735,702 (hereinafter Yavatkar) in view

of Ross et al. U.S. Patent # 6,477,571 (hereinafter Ross).

As per claim 12, Yavatkar teaches the method of claim 1, but is silent on

teaching wherein said generating exception data comprises: generating output data that

includes the number of log entries corresponding to said probe and the number of log

entries corresponding to a second probe, wherein said log entries are contained in said

data log, and wherein said probe is a source probe and said second probe is a

destination probe. Ross teaches the method of claim 1 wherein said generating

exception data comprises: generating output data that includes the number of log

entries corresponding to said probe (Fig. 2 element 20a) and the number of log entries

corresponding to a second probe (Fig. 2 element 20b), wherein said log entries are

contained in said data log, and wherein said probe is a source probe and said second

probe is a destination probe (column 5 lines 46-67)(column 6 lines 1-9).

Ross teaches storing identifications of all service requests encountered so far (# of

log entries) corresponding to the monitoring device (probe 1). It would do the same

thing for second monitoring device (probe 2) as mentioned in (column 5 lines 13-34)

wherein the source node (Fig.2 element 28) having first recording device (Fig. 2

element 20a) and the destination node (Fig. 2 element 32) having second recording

device (Fig. 2 element 2b).

It would have been obvious to one of ordinary skill in the art at the time of applicant's

invention was made to implement Ross's teaching in Yavatkar's teaching to come up

with having number of log entries corresponding to the source and destination probe.

The motivation for doing so would have been so that data could be collected from both

the source node and the destination node and then can be compared if the packets

dropped along the path.

As per claim 15, Yavatkar teaches the method of claim 1 wherein said

generating exception data comprises: tracking a packet from said source node to said

destination node (column 16 lines 66-67)(column 17 lines 1-5); and generating output

data that includes the results of said tracking (column 18 lines 34-40, lines 65-67).

Yavatkar fails to teach tracking a packet is done using a Boolean expression. Ross

teaches tracking a packet is done using Boolean expression (column 2 lines 58-

67)(column 6 lines 3-9). It would have been obvious to one of ordinary skill in the art at

the time of applicant's invention was made to implement Ross's teaching in Yavatkar's

teaching to come up with having tracking done using Boolean expression. The

motivation for doing so would have been so that computation for comparing and

tracking is done lot faster by using Boolean expression than other methods.

As per claims 34,37 respectively they teach same limitations as claims 12,15

respectively, therefore rejected under same basis.

As per claims 56,59 respectively they teach same limitations as claims 12,15

respectively, therefore rejected under same basis.

8. Claims 13,14, 35,36,57,58 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yavatkar et al. U.S. Patent # 6,735,702 (hereinafter Yavatkar) in view

of Frezza et al. U.S. Patent # 4,638,356 (hereinafter Frezza).

As per claim 13, Yavatkar teaches the method of claim 1 but fails to teach the

said data log further comprises a frame sequence number. Frezza teaches data log

further comprises a frame sequence number. (column 4 lines 16-24). It would have

been obvious to one of ordinary skill in the art at the time of applicant's invention to

implement Frezza's invention in Yavatkar's invention to come up with data log, which

comprises sequence number. The motivation for doing so would have been to use

frame sequence to tracking the packets.

As per claim 14, Yavatkar teaches the method of claim 1 wherein said generating

exception data comprises: tracking a packet from said source node to said destination

node (column 16 lines 66-67)(column 17 lines 1-5); and generating output data that

includes the results of said tracking (column 18 lines 34-40, lines 65-67). Yavatkar fails

to teach tracking a packet is done using frame sequence number. Frezza teaches

tracing a packet is done using frame sequence number. (column 4 lines 16-36). It would

have been obvious to one of ordinary skill in the art at the time of applicant's invention

to implement Frezza's invention in Yavatkar's invention to come up with tracking a

packet with frame sequence number. The motivation for doing so would have been

check that packet was not dropped or lost during transmission from source node to

destination node.

As per claims 35,36 respectively, they teach same limitations as claims 13,14

respectively therefore rejected under same basis.

As per claims 57,58 respectively, they teach same limitations as claims 13,14

respectively, therefore rejected under same basis.

Allowable Subject Matter

9. Claims 19,41,63 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Remarks

10. Applicant's arguments are deemed moot in view of new grounds of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A). "Method and Apparatus for performing service-level analysis of communications network performance metrics" by Drysdale et al. U.S. Patent # 6,058,102.

12. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the applicant (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

13.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairya A Patel whose telephone number is (571) 272-4066. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

DAP

ZARNI MAUNG
SUPERVISORY PATENT EXAMINER